August 18, 2005

Howard B. Bernstein, Ph.D.
RPS Program Manager
Massachusetts Division of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Dear Mr. Bernstein:

Thank you for the opportunity to comment on the Notice of Inquiry ("NOI") issued on July 1, 2005. As is evidenced by the many stakeholders that have submitted comments on the NOI, the ramifications of these proposed changes will significantly impact the landscape of renewable energy development for years to come. Panda Development Group ("Panda") appreciates the opportunity to present our thoughts on how to improve this landscape for the benefit of the ratepayers of Massachusetts.

Panda is developing two 30 megawatt ("MW") biomass electric generation facilities in western Massachusetts. Panda has been working on these projects since late 2004 and has submitted a proposal to the Massachusetts Renewable Energy Trust (the "Trust") to participate in its Massachusetts Green Power Partnership by selling renewable energy certificates from one of our facilities to the Trust under a long-term contract. In addition, Western Massachusetts Bio-Power, LLC, Panda's special purpose development subsidiary for the western Massachusetts projects, was one of 48 pre-applicants selected out of a total of 670 to submit a full application for the joint U.S. Department of Agriculture and U.S. Department of Energy's Biomass Research and Development Initiative grant program. Panda has devoted significant time and resources to these very promising development projects.

The NOI issued by the Massachusetts Division of Energy Resources ("DOER") and the Department of Environmental Protection ("DEP") proposes to broaden the definition of "low-emission, advanced biomass power conversion technologies" as promulgated in the renewable portfolio standards regulations in April 2002. Specifically, the NOI proposes to allow "previously operational biomass facilities retrofitted with advanced conversion technologies," and to delete the categorical exclusion of pile-burn and stoker combustion technologies. This broader definition of eligible biomass plants has the potential to qualify over 250 MW of older, pre-existing biomass facilities to the generation mix, equating to almost 2,000,000 additional renewable energy certificates ("RECs") that could flood the market. (Note: Approximately 1,000,000 RECs are estimated to be needed to meet the 2% RPS compliance requirement in 2005.) An interesting commonality between the plants that comprise this 250 MW is that only one plant, or 17 MW of the total capacity, is located within the Commonwealth; all of the remaining plants are located in other parts of New England with no direct economic benefit to the Massachusetts ratepayers.

From Panda's perspective, one of the characteristics that made Massachusetts an attractive market on which we chose to focus significant biomass development activities was the strong RPS and specifications within which a plant could qualify for RECs in the Commonwealth. Certainty and a clearly-defined regulatory environment are vital when developing any generation facility, and this is especially true when developing a renewable facility that will rely on government regulations that create one of the commodities (i.e. RECs) that will generate a significant portion of the cash flow of the project. In fact, the cash flow from RECs is the difference between the project being economically viable and it not being able to pay its fixed expenses.

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The NOI that has been issued by the DOER and DEP severely breaches this requisite certainty and casts an air of doubt and risk onto our projects that cannot withstand any more of either one. Panda's goal has always been to locate both of our facilities within the Commonwealth, thereby providing direct economic benefits to the ratepayers that support and pay for the subsidies that make our plants economically viable. Specifically, our two facilities would directly employ approximately 50 people, with an annual payroll (including benefits) of $4.6 million. Utilizing generally accepted economic multipliers for wood-fired power plants, it is expected that these two facilities would be responsible for between 144 and 300 new jobs in the region, including facility operations, timber harvesting, trucking, forest management, and facility support services. In addition to the jobs created, the facilities would be directly responsible for payroll and fuel purchases of approximately $15 million per year. Utilizing economic multipliers for the payroll and fuel purchases discussed above results in a total economic benefit to the western Massachusetts region of over $37 million annually. This is in addition to the $200 million in initial capital costs to develop, finance and construct the facilities and approximately $30 million in capital expenditures by the various loggers to set up their logging and chipping operations.

In reviewing the 20 states with existing renewable portfolio standards, several have prioritized the promotion of renewable energy as part of a state economic development effort, in addition to the obvious environmental and energy security benefits. For example, in Vermont's renewable portfolio goal, enacted in June 2005, the law reads, "...it [is] in the interest of the people of the state to promote the state energy policy to ensure that to the greatest extent possible the economic benefits of renewable energy in the state flow to the Vermont economy in general and to the rate paying citizens of the state in particular." Other states that include a similar in-state focus or preference in their RPS include Arizona, Colorado, Illinois, Montana and Texas. It seems like good public policy to benefit those ratepayers that financially enable the programs to exist. By allowing retrofitted plants to qualify under the Massachusetts RPS, almost 95% of the economic development benefits associated with the RPS would flow to out-of-state generators. To clarify, Panda is not arguing that the Massachusetts RPS should be changed to limit eligibility to in-state generation. However, to broaden the eligibility under the Massachusetts RPS to include previously operational biomass facilities as proposed in the NOI goes to the other extreme – benefiting out-of-state generators to the exclusion of new, in-state development.

In addition to this inequitable benefit to other state's economies, the economy of the Commonwealth will likely be directly harmed by the cessation of existing renewable energy project development in Massachusetts. Because of the uncertainty and potential of excess RECs flooding the market as a result of this NOI process, it will significantly impact Panda's development timeframe for getting our projects to market. In addition, if this NOI process continues and is implemented in its current form, Panda will halt its development efforts in Massachusetts – it is simply not feasible to continue spending development capital in a market that will not support the project upon commercial operations. Finally, the risk of this NOI process significantly impacting the ability of the projects to raise debt capital is high, as the message that is being sent to the lending community is that regardless of how firm the RPS appears, it is subject to change any time the "powers that be" perceive that it should be tweaked in one way or another – not a situation in which many lenders are eager to participate.

Another interesting aspect of the NOI that should be addressed is the apparent compromise by the DOER in allowing out-of-state, retrofitted plants to qualify for 36 months. On the surface, this seems like a logical way to bridge the gap to reduce REC prices to a more reasonable level until new plants can come online. In reality, if this proposed NOI is accepted as currently stated, biomass plants currently in development will be forced to terminate their efforts due to the likelihood of reduced REC pricing and the inability to obtain financing (as discussed in the next paragraph), making these older facilities the only

source of RECs until the market returns to a point where new renewable generation is needed, therefore postponing new development when it is beginning to gain significant momentum.

As for how this 36-month limitation on eligibility of existing generators under the RPS will be viewed by lenders, uncertainty and skepticism are the most likely outcome. Considering that the allowance of these older generating units is a complete departure from the historical vintage waiver requirements, lenders are likely to ask what the potential could be for the DOER and DOE to change their minds again and extend this 36-month deadline indefinitely. One of the other stakeholders probably said it best in its comments when it wrote, "Once a biomass plant has demonstrated that it meets the "advanced technology" and "low emissions" criteria, what difference does it make, with respect to being a renewable energy source, if the facility was an existing facility or a brand new greenfield site?" We agree, and believe potential lenders would also see the risk, that it will be difficult to make a plant ineligible under the RPS after it has already been eligible for a period of three years and other plants continue to maintain their eligibility even though they are of a similar vintage.

While this discussion has focused on the views of developers and lenders, a key aspect of obtaining financing for a new biomass facility is the ability to execute long-term contracts for both the energy and the RECs generated by the plant. If spot REC prices on the GIS drop to a point at or below the mid $20's, what is the likelihood that any retail electric provider would be willing to enter into even a five-year contract at a financeable level if they are able to purchase RECs off the GIS with no long-term commitment?

As a result of these issues, Panda requests that the DOER terminate its efforts under the NOI. The harm that may be caused by this process has not yet occurred, and the benefits that are available to the Commonwealth as a result of the RPS are still within reach.

With that said, we recognize the current environment in which this process was initiated. Therefore, we offer the following specific responses to some of the issues posed in the NOI. These responses were prepared in conjunction with Black & Veatch, whose services have been retained to assist Panda with the design of the two western Massachusetts facilities.

Response to Question A: Over the past 100 years, combustion has been the preferred technology for steam and power generation from biomass. Throughout this time there have been steady improvements in technology, such that modern combustion technologies are much more advanced than those employed only 20 years ago. Gasification is an emerging technology that has been proposed for advanced power cycles such as integrated gasification combined-cycle; however, to date this technology has not been successfully demonstrated at utility scale. Most biomass gasifiers currently supply fuel gas directly to a close-coupled combuster – barely differentiating themselves from direct combustion systems.

The two primary technologies used for combusting biomass fuels are stoker and fluidized bed combustion. Of these two technologies, stoker boilers are generally more efficient, cheaper to develop and construct, cheaper and simpler to operate and have lower ongoing operating and maintenance costs. These factors result in stoker technology having a lower all-in cost, thereby resulting in lower electricity costs.

The two downsides to stoker boilers is that they are not as forgiving of "difficult" fuels, including those with high moisture content and variability in their properties and that they have inherently higher uncontrolled emissions compared to fluidized bed technology. These disadvantages are mitigated, however, by the fact that stoker boilers have been shown to be able to combust biomass fuel through the years, and the emissions can be controlled through back-end control systems, as was discussed in the

NOI. Therefore, considering the lower installation and operations costs, higher efficiency and nearly equivalent emissions levels, newly installed stoker technology should be considered as "advanced," subject to emissions levels discussed later.

Response to Questions B, C & D: Panda does not believe Net Heat Rate is a reasonable basis for determination of "advanced biomass power conversion technologies." As will be discussed in the next paragraph, assuming the NOI process moves forward, Panda would propose another methodology for determining whether a facility is advanced and low-emission. If appropriate standards for net heat rate are to be created, however, Panda believes the limits established in Table 1 are aggressive. In particular, the 12,300 Btu/kWh heat rate limit for non-fluidized bed technology >25 MW would be difficult to meet for most plants. Panda believes that a heat rate close to 14,000 Btu/kWh is more realistic.

An alternative approach to separate heat rate and emission standards is an output-based emissions standard. This standard would relate emissions limits to the amount of productive energy produced, rather than the amount of fuel burned. This approach would tie the efficiency and emissions together - by using input fuel more efficiently, a plant can reduce associated emissions per unit of output.

There is an increasing regulatory trend towards output-based emissions standards. Several states have implemented or are moving towards such standards (for example, California, New York, and Texas), and the EPA has recently proposed to move towards output-based standards for New Source Performance Standards.

An additional advantage of the output-based standards is procedural simplicity. As opposed to having multiple separate standards for heat rate and emissions for different technologies, a single standard can be set that captures the effects of both. This will make ongoing adjustments to the input values easier. The table below represents values that we feel are stringent, yet obtainable, and truly reflects technology that is advanced and low emissions.

Proposed Output Based Emissions Standards

Emission	Lb/MWh
NO_x	1.1
SO_2	0.4
CO	4.2
VOC	0.14
PM10	0.35

All of these standards are in line with the proposed limits in Table 2 of the NOI, except for carbon monoxide. With new stoker technology, there is a trade-off when trying to control NOx and CO. Panda believes that this trade-off should be considered when the output-based emissions standards are set.

In adopting such standards, careful consideration should be given to properly account for the value of combined heat and power ("CHP") systems. Two approaches are offered to account for the thermal energy:

- Add the thermal output to electric output to reduce effective emission rate. Full or partial credit can be assigned to the thermal output. This option is relatively simple to implement.
- Determine the emissions that would have resulted by generating the same thermal energy from a traditional boiler and subtract those offset emissions from the CHP system's actual emissions. Compliance is calculated as: (total emissions - avoided emissions)/MWh_e. This option more directly reflects actual emission benefits of CHP, but is procedurally more difficult to implement. Additional information on this approach is provided at the Regulatory Assistance Project's website at: www.raponline.org.

Finally, regarding DOER's proposal to include construction and demolition debris ("C&D") as an Eligible Biomass Fuel, Panda agrees that this is an important change for the future of biomass-fueled renewable energy facilities in the Commonwealth. It is Panda's intent to use no more than 25% clean C&D in our fuel mix. If not used as fuel at a biomass facility, C&D wood will continue to fill up the landfills or, if that application is banned by the legislature, it will have to be shipped out of state. In addition, as discussed above, the economics of biomass generation are just above acceptable levels. Utilizing low-cost, clean C&D is an important piece of the puzzle in making these plants economically viable. At this time, Panda doesn't have a comment on the emissions limitations for C&D combustion facilities. We look forward to providing further information as it is known.

Again, thank you for the opportunity to comment. Panda continues to remain optimistic about the prospects for the successful development of our western Massachusetts projects and looks forward to working with the DOER and DEP to ensure a resolution to this process that is in the best interests of the Commonwealth and its ratepayers.

Sincerely,

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Western Mass. Bio-Power, LLC